

Poster Session 2:

14th International Aphasia Rehabilitation Conference, Montreal

**Translating Aphasia Rehabilitation
from Clinical Sessions to Functional
Communication:
A Case Study
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c/o: Positive Power Publishing

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Abstract

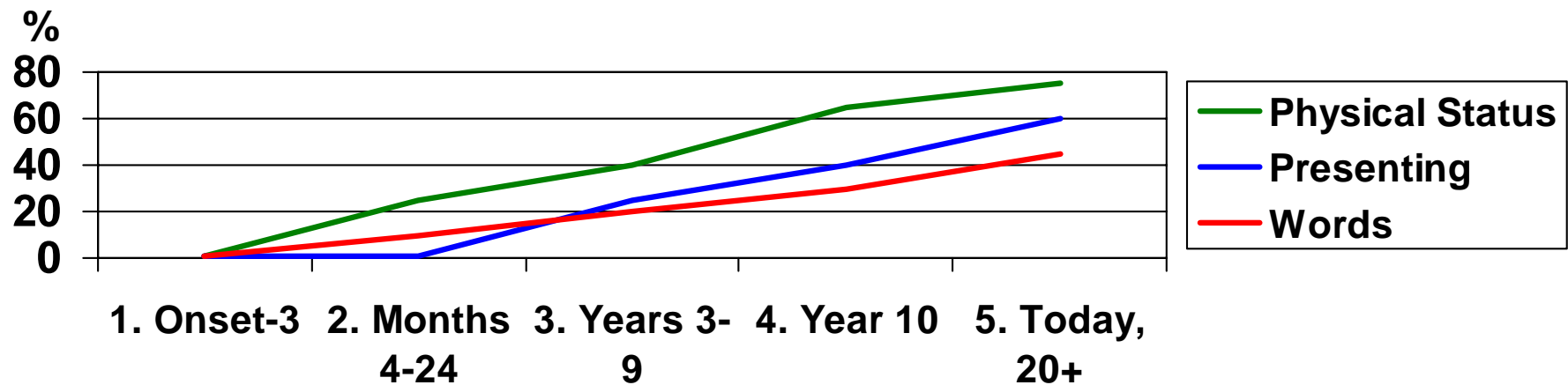
Paul E. Berger & Stephanie Mensh

- Background: Need to go beyond ability to communicate with SLP
 - Aphasia treatment plan is relevant to patient's community reintegration
 - Patient & family have tools to facilitate independent communication
 - Patient succeeds in returning to work, volunteering & recreation
- Methods: Case study
 - Paul Berger, stroke from ruptured subarachnoid aneurysm, age 36
 - Wife, Stephanie Mensh
 - Severe receptive & expressive aphasia (& right-sided hemiplegia)
 - Observations by Paul & Stephanie recorded in diaries, publications
- Discussion: Patient-centered approach
 - Paul & Stephanie collaborated with SLPs on goals, materials, homework
 - SLP's collaborative/coaching attitude is a key motivating factor for Paul
 - Intensive hours of homework with tutors; creative approach to materials
 - Family support was important
- Conclusions: A motivated patient can succeed
 - Aphasia rehab sessions successfully translated into functional independent communication & community reintegration through collaboration between patient & SLP in goals, approaches & materials

Summary of Inputs and Measures Over 5 Selected Timeframes

	Activity		Measure			
Timeline/Period	Type of Speech Therapy/Facility	Tools used at home/work	Physical Status	Giving a Presentation	# of Words	
1	Onset of stroke/aphasia thru inpatient rehab (hospital): 3 months	Inpatient, conventional, 2 30-45 min session/day	Conventional workbook; photos from home	Wheel-chair		10
2	Month 4-24: Outpatient rehab, return to work (to employer at time of stroke)	Therapist's office; 3-5 1-hr sessions/week; Conventional workbook; materials from work; "tongue" cards	Pocket notebook; homework with aides; spouse guessing & cueing; mirror; sound cues for letters	Cane; arm pain		100
3	Years 3-9: Finding new employment; continuing outpatient rehab	Therapist's office; 2-3 1-hr sessions/week	Tutor 3 1-1/2 hr sessions/wk; Franklin electronic dictionary; slang & visual dictionaries; 40,000 words	Cane, longer walks; no arm pain	Gov Panel & ICON & Toast-masters	1000
4	Years 10-15 post-stroke, return to school to learn computer-aided drafting (CAD)	Vocational school; hands-on instruction; 5 hours each 5 days/wk, for 14 months	Reading tutor & CAD engineer tutor; CAD software at home	Walk without cane 30 min or more	Kennedy Center	Complex, multi-syllable
5	20+ years post-stroke, current activities in group aphasia rehab	Group sessions at SCC; Online- individual & group sessions with Webcam	ReadPlease; MSWord & internet dictionary; AphasiaToolBox	Walk faster goal from 1.1 to 2.4 mph	20 min speech; Hill	Learn new words faster

Estimating Progress Over 20+ Years



1. Inpatient Aphasia Rehabilitation

- Status immediately post-stroke:
 - Severe expressive & moderate receptive aphasia
 - Very early evaluation by SLP & initiation of rehab requested by Stephanie
- Therapy: conventional approach & materials
 - 30-40 min. sessions, 2/day
 - Non-verbal communication supported by nursing rehab staff
- Family support: photos w/captions of house/family/friends
- Results: speaking ~10 words; some reading comprehension with cueing

2. Months 4 to 24: Therapy

- April-November: “Full Time” Outpatient Rehabilitation
 - Speech Therapy: 5 times a week: 3 times for 1 hour in therapists’ office; 2 times a week for 1-1/2 hours in home
 - PT/OT: 3 times per week for 1 hour in therapists office
 - Full time companion/driver, 8:30 am to 6:00 pm, providing transport; help with speech homework & reinforcement; PT/OT home exercises

- December: Paul Returned to Work Part Time 3 Days per week
- Year 2 (Jan-Dec): Part Time Work & Outpatient Rehab
 - Speech Therapy: 3 times a week: 2 times for 1-1/2 hours in therapists’ office; 1 time a week for 1 hour at Paul’s worksite
 - PT/OT: 2 times per week for 1 hour in therapists office
 - Part time companion/driver, 8:30 am to 6:00 pm, 2 days per week; transport; help with speech homework & reinforcement; PT/OT home exercises

2. Months 4 to 24: Tools, Homework & Partner

- Therapist's materials:
 - Reading/writing: conventional aphasia/adult workbooks; original handwritten materials; materials provided by Paul (& Stephanie) based on Paul's job documents & newspaper, magazine clippings of interest
 - Speech production: techniques for relearning tongue placement (as used in deaf children); vowel & consonant production
- Home materials:
 - Tongue placement cards with customized sound cues (eg, point to nose for "n"); mirror
 - Homework, 2 days per week with companion: sound/word production at least 1 hour per day; reading/writing at least 1 hour per day
 - 3-ring binder to store therapy & homework materials for reference (eg, grammar—nouns, verbs, etc.; reading comprehension; naming letters, dates, objects; arithmetic)
 - Pocket notebook
- Reinforcement:
 - Stephanie & companion engaging Paul in conversation through guessing, cuing, non-verbal (drawing, pointing)

2. Months 4 to 24: Community Reintegration

- April-November:
 - With driver/companion: therapy sessions; restaurants for meals; outings to parks, mall; errands (light shopping; cleaners; post office); visits with co-workers, friends
 - With Stephanie: visits with family and friends; recreation (eg, movies; restaurants); shopping; travel to New Orleans in November (Month 11)
 - Mobility: transfer out of wheelchair onto seats in restaurant/park; use of wheelchair through September (Month 9); limited walking with cane (eg, 4-6 blocks); some arm pain
- December through Year 2:
 - Able to independently perform most activities of daily living (eg, grooming, dressing, eating)
 - Returns to former employer, part time, significantly reduced duties due to speech/language impairments (from professional to clerical)
 - Returns to driving car (month 15, 3-4 driving lessons)
 - Walking time, distance with cane improves (8-10 blocks)
 - Travels to Ireland with Stephanie (month 19)
 - Communicates mostly through gestures, some words, writing/drawing in pocket notebook

3. Years 3 to 9: Therapy

- Year 3: Part Time Work & Outpatient Rehab
 - Speech Therapy: 3 times a week: 2 times for 1-1/2 hours in therapists' office; 1 time a week for 1 hour at Paul's worksite
 - PT/OT: 2 times per week for 1 hour in therapists office; home exercises
- Year 4: Volunteer Activities & Outpatient Rehab
 - Same as above, except all speech therapy in therapists' office
- Years 5-8: Part Time Work, 5 mornings per week & Rehab
 - Speech Therapy: 2 times a week: 1 session for 1-1/2 hours; 1 session for 1 hour
 - PT/OT: 1 time per week for 1 hour; home exercises
- Year 9: Full Time Work
 - End Speech Therapy (with "graduation party" at end of 8th year); joined Toastmasters to continue improvement
 - PT/OT: 1 time per month for 1 hour; home exercises

3. Years 3 to 9: Homework & Partner

- Therapist's materials:
 - Reading/writing: original materials created by SLP; newspaper & magazine clippings
 - Speech production: single to multi-syllable words, simple sentences
- Home materials:
 - Tutor for 1-1/2 hours, 3 times/week
 - Oral homework assignments from SLP
 - “40,000 Selected Words: Organized by Letter, Sound, and Syllable”
 - Self-paced written homework assignments: Paul writes a weekly diary entry corrected by SLP; timed writing exercises
 - Words by categories: nouns & verbs
 - Sentences, then paragraphs
 - Franklin electronic dictionary; visual & slang dictionaries
 - Binder with homework goals, grammar tools, etc.
- Reinforcement
 - Paul uses dictionaries and SLP binder to assist in reading
 - Reading middle-school level books (biographies) for recreation
 - Stephanie engaging Paul in conversation: less cuing & guessing; Paul writing words or parts of words

3. Years 3 to 9: Community Reintegration

- Employment: Loses job with pre-stroke employer
 - State vocational rehabilitation services were frustrating & negative
 - Job placement assistance from government & private organizations
 - Volunteer jobs (Mortgage Bankers Assoc.; state legislator's campaign)
 - Found & lost various part time clerical jobs during this period
- Public speaking presentations (5 minutes each):
 - Government panel on post-stroke rehabilitation
 - ICON Employment Services recognizing Paul's employer
 - Earned Toastmasters' 'Competent Toastmasters' certification (completing 10 short speeches using Toastmasters' Speaking Manual)
- Walking time & distance improves without cane; no arm pain
- Independent in self-care; meal preparation; shopping; bill-paying
- Recreation:
 - Return to swimming
 - Return to model train activities, including building new layout (with help)
 - Joined Citizen's group to learn about & advocate for private rockets
 - Continues to travel with Stephanie to Wales, UK, Spain
- Communicates with words, phrases, gestures, writing in notebook; able to read short prepared speeches with extensive practice

4. Years 10-15: “Therapy”

- “Therapy”: Attends vocational school to learn computer-aided drafting
 - Classes 5 days per week, 5 hours per day, for 14 months (Years 10 & 11)
 - Hands-on, self-paced, one-on-one instruction at individual work/learning station, including computer
 - Class discussion 1/2 hour or less per day
 - Reading, writing, lettering, & drawing assignments
 - Auto-CAD software assignments
 - Extra time to complete program course work was given as an accommodation to Paul’s disabilities (use of one hand; aphasia)
- Home:
 - Reading, writing, lettering, & drawing homework lessons
 - Learning Auto-CAD software
- PT/OT:
 - 1 time per month; home exercises

4. Years 10-15: Homework & Partner

- School materials:
 - Reading, writing, lettering, drawing, & computer lessons
- Home materials:
 - Reading tutor to assist with reading/writing assignments for 1-2 hours, 2-3 times per week
 - CAD tutor (consulting engineer) for 1-2 hours, 1-2 times per week
 - CAD software was too different from conventional “Microsoft Office” software, thus requiring an engineer to explain terms (eg, “pline”), and demonstrate/teach features
 - Student version of CAD software on home computer
- Reinforcement:
 - Daily afternoon walk to clear brain, relieve stress from school, and revive for tutors and homework
 - Stephanie assisted with school paperwork & disability accommodations (eg, legal requirements for permitting additional time; purchased drafting chair to replace 3-legged drafting stool; etc.); provided supportive home environment for this very difficult curriculum

4. Years 10-15: Community Reintegration

- Employment: Decided to return to school for new career
 - Community college session for students with learning disabilities on job options
 - Began writing book on stroke & aphasia recovery
 - Selected private vocational school for its lower instructor-to-student ratio and emphasis on job placement for graduates; Completed in 14 months (5-6 months longer than typical student)
 - School & CAD tutor assisted in writing resume & selecting work samples; job placement
 - Attended stroke survivors support group coffee at restaurant on Fridays as “reward”
- Employed as computer draftsman for consulting commercial building engineering company for 5+ years
- Public Speaking Presentations:
 - Won award for “How to Conquer the World With One Hand...And an Attitude” from National Council on Communicative Disorders and gave acceptance speech to award ceremony at Kennedy Center, Washington, DC (1999)
 - Various presentations to stroke professionals & survivors groups up to 15 minutes
- Recreation/Volunteer:
 - Continued interests in model trains; Congressional visits on rockets
 - Volunteer Board Member for the National Aphasia Association
 - Co-chair (with Stephanie) Community Education Committee for “Operation Stroke”
- Walking speed & stamina up to 1 mile in 30 minutes daily; exercise bike 3 times/week
- Communicates with multi-syllable words, more complex phrases, learns longer speeches more easily, significantly improved reading comprehension

5. 20+ years Post-Stroke: Therapy

- Return to Group and Individual Speech Therapy Sessions
- Stroke Comeback Center (5 years)
 - Darlene Williamson, Vienna, Virginia
 - Aphasia Groups: 1 session per week for 1 hour, led by speech therapist, with 3-5 other people with aphasia
 - Approach: Emphasis on conversation & social interaction
- AphasiaToolBox.com (1-1/2 years)
 - Bill Conners, Pittsburgh, Pennsylvania
 - Individual sessions: 1-2 sessions per week for 1 hour with speech therapist
 - Group sessions: 1 or 2 sessions per week for 1 hour, led by speech therapist with 3-4 other people with aphasia
 - Peer-to-peer sessions: 1-2 sessions per week for 1 hour with other person with aphasia
 - Most sessions conducted via Internet video service (Skype or ooVoo) with web camera (all participants), with written notes using “chat” function during session & saved for homework/review
 - Approach: Emphasis on thinking before conversation, speaking in sentences, asking questions, listening, social interaction

5. 20+ years PS: Homework & Partner

- Therapist's materials:
 - Stroke Comeback Center: Created/collected by SCC staff, including conventional aphasia & speech language products; games; computer software; original materials (eg, telephone script)
 - AphasiaToolBox.com: Original materials created by Bill Connors
- Home materials:
 - Stroke Comeback Center: Reading, writing, or speech preparation assignments created by SCC staff
 - Paul finds/researches original material, 1-2 hours per week
 - AphasiaToolBox.com: Aphasia Site Reader special software developed by Bill Connors for self-paced practice in grammar, word/phrase production
 - Paul spends 1-2 hours per day, 2-5 days per week on Site Reader and other exercises (typically 2 hours per day, 5 days per week, workload permitting).
- Reinforcement:
 - ReadPlease screen reader for email, newspaper items, other materials online
 - Online/imbedded in MSWord dictionaries, thesaurus, grammar, encyclopedia
 - Word-of-the-day email subscription
 - Spontaneous conversations with online aphasia group peers
 - Kindle to read for pleasure using the read-aloud feature
 - Stephanie provides higher level sentence/grammar corrections only after Paul has produced a sentence orally or in writing (eg, email)

5. 20+ years PS: Community Reintegration

- Employment: Self-employed as publisher, speaker, author, website www.StrokeSurvivor.com (eg, online articles, free email newsletter) for 7 years
- Public Speaking Presentations:
 - Various presentations to stroke & speech professionals & survivors groups, 20 minutes or more, with Q&A
 - Representing the patient's perspective as part of an expert panel at various U.S. Capitol Hill briefings (eg, Senate leadership bill; value of medical imaging devices; e-health/tele-rehabilitation)
 - Continued active member of Toastmasters
- Recreation/Volunteer:
 - Continued Congressional visits on rockets
 - Volunteer advocacy visits to US Congress & state legislature on heart & stroke
 - Serve on boards: Stroke Comeback Center; ICON Community Services (employment/housing for people with disabilities); GWU Inpatient Rehab Program
 - Rotary Club, serve as "The Greeter"; information booth for annual fundraising fair
- Walking speed & stamina up to 2.4 miles per hour after "walk faster" training on treadmill; daily walks; exercise bike 3 times/week
- Communicates with more multi-syllable words, more complex phrases and complete sentences, learns new speeches very quickly, continues to improve reading comprehension & speed (Kindle)

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